Someday soon, your car, your phone, your TV – and even your refrigerator – will do things you may never have imagined possible.

Living the high (tech) life

by Kevin Savetz

MICROPROCESSORS AND wireless communications let us share information with one another more easily than ever. Increasingly, gadgets – from home appliances to cars – can communicate with each other too. This is a story about a Rotarian named "Jack" and how some new high-tech products improve his life.

Although this story is a work of fiction, it certainly could be true. All of the technology mentioned here is available today or will be available in a few months. While you may not choose to surround yourself with as many information, communication, and entertainment gadgets as Jack does, you might find that one or two of them can change your life for the better.

Jack's day begins like any other. He reaches to silence the clock radio, then he takes his digital watch from the nightstand. As he dons the watch, it shows him the day's weather forecast – cold and cloudy – and the traffic report. The watch uses Microsoft's Smart Personal Objects Technology, which fetches information over FM radio.

But it's too early to think about traffic. Still foggy from sleep, Jack walks into the kitchen, where a pot of hot coffee awaits. The coffeemaker was activated by the alarm clock 10 minutes before Jack awoke. The two devices communicate over the house's electrical wiring. The coffee's just the thing to start the day.

Jack gets ready for work. He notices that the carpet looks dirty. So he takes out his Roomba (www.roombavac.com), a robotic vacuum cleaner, presses its start button, and heads out the door. The Roomba vacuums the floor, navigating around objects and under the couch by itself. When it's done, it shuts itself off.

During the drive to work, Jack turns on his satellite radio receiver. Unlike FM radio, satellite radio stations sound great even when he's driving over a mountain pass. The music continues uninterrupted on long road trips when Jack is in the middle of nowhere, miles from the reach of traditional radio stations. The two satellite radio providers – Sirius (www.sirius.com) and XM Radio (www.xmradio.com) – charge $10 to $13 per month, delivering 100 channels of commercial-free music, news, and sports. Today Jack chooses smooth jazz to keep him occupied during his drive.

Smaller devices such as PDAs and tablet PCs are changing the way people store and use their data.

Once at work, it's meetings all morning. Jack pulls a tablet PC from his briefcase. It's a computer, but it's shaped more like a pad of paper than a laptop. Jack isn't much of a typist, but that's all right – this PC doesn't have a keyboard. Jack takes notes in his own handwriting using the PC's stylus. The

PC converts what he writes into text that can be e-mailed or edited in a word processor. When another meeting is scheduled for later in the week, Jack writes "meeting with Carl Friday 2:00." He circles that sentence, and the appointment is added to his calendar. When Friday arrives, the tablet PC will remind him of the meeting. (Tablet PCs are available from Fujitsu, Motion Computing, and Toshiba, among other manufacturers.)

A lot of paper documents are distributed during the morning's meetings, with only a fraction relevant to Jack. Rather than re-typing or handwriting the important parts to get them into his computer, Jack uses a pen scanner, such as the C-Pen 800 or the WizCom QuickLink. A pen scanner looks more or less like a highlighter pen, but instead of highlighting, it reads and remembers type-written text. Jack runs the pen over important paragraphs, and later he can send the text to his PC or PDA via a wireless infrared link.

At lunchtime, Jack heads for his Rotary club meeting. While waiting for the meeting to start, he pulls his personal digital assistant from his pocket and, thanks to its wireless Internet connection, takes care of some personal business. He checks his stock portfolio, finds out what movies are playing nearby, and orders an out-of-print book from an online book store as a gift for a friend.

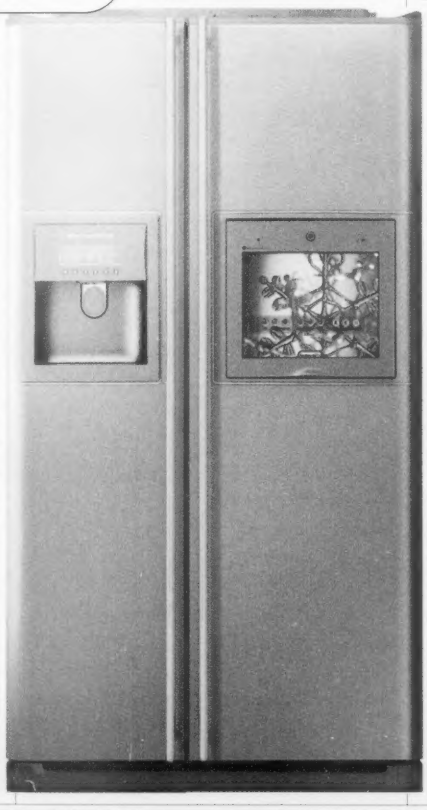
After the meeting, Jack heads back to the car to drive to a conference in a different part of town, but he doesn't have time to get lost. Luckily, he has a Navman 3420 (www.navman.com), a voice GPS (global positioning system) navigation system. Before he starts the trip, he enters his destination address using the small color screen on the unit. As he drives, a voice tells him when to turn, merge, and stop. The car's location is displayed on the screen's moving map. According to the display, he'll arrive in 18 minutes – just in time.

At the conference, Jack pulls out a digital voice recorder, such as the Sony ICD-MS515VTP, which makes an audio recording of the two-hour meeting. When the meeting is over, he can move the digital audio file to his PC and speech-to-text software will transcribe the entire meeting.

Many products include wireless technology that allows them to communicate with each other.

After the conference, Jack's work day is done. He gets back in the car and heads home. He needs to check in with the chairwoman of his club's International Service committee, so he puts on a headset and says, "Call Angela." Jack's car is a Saab 9-3, the first car to include a wireless protocol known as Bluetooth, which allows electronic devices in the car to communicate with each other. The headset communicates with the car's mobile phone. Jack talks while keeping both hands on the wheel. Angela tells him to expect an important e-mail about the committee's latest project idea. After he hangs up with Angela, Jack asks the car to read his e-mail. It uses the same Bluetooth technology to fetch e-mail from the computer in Jack's briefcase and read his messages aloud.

The multimedia refrigerator's LCD screen is a TV and a food database.



Home again, Jack needs to recharge his PDA, headset, and whatever other gadgetry he happens to be carrying that day. But he doesn't have to fuss with plugs and wires. Instead, he simply places them on a SplashPad (www.splashpower.com), a flat platform that recharges whatever electronic gizmos Jack puts on top of it.

It's dinner time and our hero is getting hungry, so he walks to the kitchen and peers into the refrigerator – LG Appliances' multimedia model (www.lgappliances.com). It holds an unremarkable assemblage of food – nothing seems to shout "here's your dinner." So he closes the fridge and taps his finger on the color screen embedded in the door. He looks at a list of the food it contains, then he sorts the list by the

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The Saab 9-3 includes a wireless protocol called Bluetooth, which enables communication between devices such as cell phones and notebook computers.

ingredients that will expire first. The cream is perilously close to its expiration date, and the cheese is starting to show its age. With another press of a button, a cookbook appears on the refrigerator's screen. He searches for recipes that require a cup of cream and a few ounces of parmesan, finally selecting an easy pasta alfredo recipe. While he cooks, he watches the six o'clock news on the fridge's screen.

Jack's friend Jenny drops in for dinner. She uncorks a bottle of wine and compliments him on his clean carpet.

While he is distracted with dinner and conversation, Jack misses the first half of his favorite television show. No problem – his ReplayTV personal video recorder automatically recorded it. The two sit on the couch to watch. Unlike Jack's old VCR, the personal video recorder can record one thing while it's playing something else, so they watch the program from the beginning while it's still taping. Even better, the recorder automatically skips commercials, trimming the hour-long show to 44 minutes.

The Navman communicates with satellites to provide accurate directions to your destination.

In fact, it is such a good episode that Jack wants to send it to his brother. That used to mean copying a videotape, packaging it, and taking it to the post office – a time-consuming process. But his brother also owns a ReplayTV, so the video tapes are forgotten. By pressing a few buttons on his remote control, Jack sends a copy of the show over the Internet to his brother's personal video recorder 3,000 miles away.

Jenny wants to show Jack the pictures she took on her recent trip to Seattle. She turns on her digital camera, which can communicate with the TV via an ad hoc WiMedia wireless network. She shows the pictures on the TV screen, narrating the slide show. One image of the Space Needle at sunset particularly captivates Jack. So Jenny gets to work, directing the camera to look for other gadgets it can talk to. It finds Jack's color printer. Jenny sends the photo to the printer, which dutifully prints it – without wires and without even turning on the computer. (In her apartment, the same WiMedia technology hooks Jenny's DVD player, television, and stereo together without a messy tangle of wires. It's much easier to add a new component to the stereo system, and it looks less cluttered.)

It's getting late, and Jenny is ready to go home. She thanks Jack for dinner and leaves.

A few minutes later, Jack's watch beeps. He's surprised by the message that appears on its screen: "Tomorrow dinner's on me. – Jenny."

Jack's digital future is looking better and better.

✦ *Kevin Savetz (www.savetz.com) has been a freelance technology writer for a decade.*

The Roomba is a robotic vacuum cleaner that does all the work.

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